CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512

August 28, 2001

Tim Rossknecht
Project Director
FPL Energy, Inc.
700 Universe Boulevard
Juno Beach, FL 33408-2683

Dear Mr. Rossknecht,

RIO LINDA/ELVERTA POWER PROJECT (RLEPP) DATA REQUESTS

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This second set of data requests (#92-234) is being made in the areas of air quality, alternatives, biological resources, cultural resources, land use, noise, transmission system engineering, visual resources, and water and soil. Many of the data requests from the first set have been rewritten and resubmitted in the second set to clarify the additional information needed by staff. Written responses to the enclosed data requests are due to the Energy Commission staff on or before October 1, 2001, or at such later date as may be mutually agreed.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both Commissioner Arthur Rosenfeld, Presiding Member of the Committee for the Rio Linda/Elverta Power Project proceeding, and to me, within 10 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time and the grounds for any objections (see Title 20, California Code of Regulations section 1716 (e)). Staff requests that responses be sent together rather than fragmented.

If you have any questions regarding the enclosed data requests, please contact me at (916) 653-1227 or e-mail lshaw@energy.state.ca.us.

Sincerely,

Lance Shaw
Siting Project Manager

Enclosure
cc: POS

Technical Area: Air Quality
Author: Brewster Birdsall and William Walters

BACKGROUND

In the AFC, the applicant has concluded that the air quality impacts from project construction will be insignificant; however, some of the construction activities and modeling assumptions are not presented for evaluation. Staff needs clarification of the construction emissions and modeling assumptions to be able to assess the Applicant's analysis and demonstrate that there are no significant air quality impacts from project construction.

DATA REQUEST

92. Disturbed acreage during construction identified in Section 5.2.4.1 does not include off-site construction or construction necessary for linear facilities. As described on page 5.2-44 of the AFC, only on-site construction impacts were modeled. Please include in the analysis all construction activities associated with development of the 20.1 mile gas line, the extension of Sorento Road, and other off-site and linear facilities associated with the project.

93. Please provide the construction scenario dispersion modeling input and output files electronically for staff review.

94. The construction schedule requires additional description and clarification. Please identify the hourly, daily, and annual construction schedules assumed in the dispersion modeling analysis.

95. Dispersion modeling of NO2 impacts using a first-order exponential decay method was not identified in the modeling protocol of Appendix K-1. Based on Staff's experience with another project, Staff is concerned that the exponential decay method may not be specifically appropriate for characterizing the decay of NO to NO2, but might actually be more appropriate for characterizing a broader range of NxOx decay. For further consideration by Staff, please provide copies of all technical references for the NO to NO2 decay method.

BACKGROUND

In the AFC, the applicant has concluded that the air quality impacts from project operations will be insignificant. Staff needs clarification of specific technical issues to complete the review of the air quality impact analysis.

DATA REQUEST

96. Information on combustion turbine and HRSG initial commissioning is not provided. Please provide additional description of the commissioning, including the maximum duration of the commissioning period and total heat rate and emissions during initial commissioning.

97. To supplement the discussion of the diesel sources for Table 5.2-26 and dispersion modeling on AFC p. 5.2-47, please summarize how the diesel sources are handled in the short-term modeling scenarios.

98. According to Applicant submittals during the Data Adequacy phase (FPL Energy, March 23, 2001, response to (Air Quality) Data Adequacy Comment #1), updated emission factors would be used for the diesel internal combustion engines in Table 5.2-26. Please update the table to reflect the new emissions and re-model ambient air quality impacts, as necessary.

99. Short-term hourly emission rates identified in AFC Table 5.2-24 do not reflect the maximum hourly emission rates identified in Table 5.2-22. Please confirm that maximum hourly emission rates for startup conditions and short-term emission rates in the two tables are presented consistently.

100. Shutdown conditions are introduced with startup conditions on AFC p. 5.2-34 as typically having higher emissions than operating conditions. Table 5.2-22 does not identify the emission rates that could occur during the shutdown process, and Table K-4-5 does not include shutdown phases in the annual schedule of events. Because shutdown conditions sometimes include periods of uncontrolled emissions, when pollution control devices cease operation, staff needs additional information to confirm that worst-case emissions have been characterized. Please identify the duration of the shutdown process, the emissions that would occur, and the associated stack parameters (e.g. exit velocities, exit temperature). As appropriate, include updated emissions from shutdowns in the dispersion modeling analysis.

101. Table 5.15-3, of the Public Health section, identifies ammonia emissions that would occur during operation of the combustion turbines with SCR. Short-term ammonia emissions that would occur during the startup and shutdown processes should be discussed.

102. The dispersion modeling files for short-term PM10 impacts indicate an hourly PM10 emission rate of 1.2 g/s for each combustion turbine, while maximum short-term emissions are identified in Tables K-4-2 and K-4-4 as 1.57 g/s. Please clarify the basis for the short-term PM10 emission rates used in the model, or update the modeling analysis, if necessary.

103. Dispersion modeling of hourly NO2 impacts using ISC3-OLM and ambient ozone data from 1985-1988, and annual NO2 impacts using the ambient ratio method (ARM), was not identified in the modeling protocol of Appendix K-1. Please discuss if this modeling approach has been reviewed and approved by the Sacramento Metropolitan Air Quality Management District.

BACKGROUND

Potential changes to the cooling tower system have recently been identified by the applicant for abatement of the visual effects of the plume (Supplemental Data Response

July 12, 2001, Response to Data Request #43). To the extent that the design changes alter the emission rates, release configurations, release parameters, or building downwash effects for any emission points, the dispersion modeling analyses for plant operation would need to be updated.

DATA REQUEST

104. Please update the dispersion modeling analyses for plant operation, as necessary, to incorporate plant design changes that would affect emission rates, release configuration, release parameters, or building downwash effects for any emission points.

BACKGROUND

The diesel fuel sulfur content assumed in emission calculations for the diesel-fired stationary and construction equipment varies from approximately 0.10 to 0.27% sulfur by weight. The allowable sulfur content for diesel fuel in California is 0.05%, and the SO2 BACT assessment for the stationary diesel engines (Section 5.2.3.3) indicates that "low-sulfur (less than 0.05% by weight diesel fuel" will be used.

DATA REQUEST

105. The sulfur dioxide emission estimates for stationary and construction equipment appear to use a range of diesel sulfur content assumptions. Please revise the sulfur dioxide emission calculations to use a fuel sulfur content of 0.05%, which is the maximum diesel fuel sulfur content allowed by law.

106. Please correct the modeled concentrations for construction and operation to reflect the corrected SO2 emission rates.

BACKGROUND

The Applicant indicated in the AFC (page 5.2-67) that the additional information of emission reduction credits (ERCs) obtained by FPLESP would be supplied to staff under separate cover. An initial submittal of such information was received in dockets on February 2, 2001 (Confidential Cover). (Discussed in the May 4, 2001 Issues Identification Report.) Staff recognizes that the task of obtaining offsets has proceeded since the date of the initial submittal and that more recent ERC information may be available, which may affect staff's review of this case. In the PSA, staff must certify that ERCs used by RLEPP are real, quantifiable, surplus, permanent, and enforceable. In order for staff to complete the PSA, the sources of all required emissions offsets must be identified and approved by Sacramento Metropolitan Air Quality Management District (District) and the U.S. EPA.

DATA REQUEST

107. Please submit to staff an updated copy of ERC summary information reflecting current ERC status. The details of the offset package may remain confidential, given the status of purchase and option negotiations.

108. Please provide documentation that the ERC package proposed by the Applicant has been approved by the District and U.S. EPA.

109. Section 5.2.5 of the AFC provides conflicting information regarding the requirement for CO emission offsets, see Table 5.2-36 and supporting text. Please clearly identify if CO emission offsets are required for this project.

BACKGROUND

The Applicant indicated in the AFC (page 5.2-67) that the AFC would be submitted to the Sacramento Metropolitan Air Quality Management District (District) for the Determination of Compliance. A supplemental filing was submitted in March. Staff recognizes that there may be other documents, not provided with the AFC, which may have been sent to the District or received from the District that could affect staff's review of this case.

DATA REQUEST

110. Please submit to staff a copy of any other permitting-related documents submitted to, or received from, the District that relate to the RLEPP and were not submitted with the AFC. Also, please continue to provide to staff copies of all documents sent/received to/from the District until such time as the Commission decision for this AFC has been finalized.

BACKGROUND

The Applicant provided a cumulative impacts analysis protocol and has indicated that it is refining a list of projects from the District in order to complete the cumulative impact analysis.

DATA REQUEST

111. Please submit the cumulative modeling analysis including the input data for the projects included in the analysis (i.e. within 6 miles of the project site). When submitting the results of this analysis please provide all model input/output files electronically.

BACKGROUND

The heat recovery steam generators and duct burners associated with the project qualify as electric utility steam generators. The requirements of the federal new source performance standards for these units should be identified in the LORS.

DATA REQUEST

112. Please discuss the applicability of new source performance standards (40 CFR 60) for electric utility steam generators (Subpart Da).

Technical Area: Alternatives
Author: Susan Lee

BACKGROUND

Under CEQA, alternatives must be considered that have the potential to (a) meet most project objectives, and (b) reduce or eliminate impacts of the proposed project. While the Applicant's stated project objectives are fairly broad, the Applicant has limited the alternative site analysis to transmission interconnection alternatives, natural gas supply pipeline route alternatives, water supply alternatives and technology alternatives, but does not include any powerplant site alternatives.

The Sacramento Ethanol and Power Cogeneration Project (SEPCO, 92-AFC-2) was a previous ethanol facility certified by the CEC for power generation at the proposed RLEPP site (CEC, 1994). As an ethanol cogeneration facility, SEPCO needed to be near a supply of ethanol process feedstock (rice straw), and because of Sacramento Municipal Utility District's (SMUD) involvement, the project needed to be within SMUD's service area.

The RLEPP Applicant refers to 73 alternative sites identified for the SEPCO Project in its AFC (page 3-70) but does not present any alternative sites specific to this project. For the SEPCO project, two criteria were necessary when evaluating potential alternative plant sites: sites within two miles of an existing railroad line and sites within close proximity to the agricultural feedstock for the ethanol facility to meet air quality offset requirements. The Applicant states that "RLEPP has many of the same attributes as the SEPCO power project;" however, the above mentioned criteria do not apply to RLEPP since it is not an ethanol plant.

Because the RLEPP is not restricted by these criteria, alternatives in a broader geographic region can be considered. Since no specific alternative sites were evaluated for RLEPP in the AFC, alternative power plant sites specific to this application must be identified and evaluated by staff.

DATA REQUEST

113. From the 73 proposed sites for the SEPCO project, present the 5 sites that best meet the current project objectives and also are still currently available, and briefly compare their potential environmental impacts to those of the proposed site.

114. Explain the geographic area that bounds potential site alternatives for this project and explain how that area was determined.

Technical Area: Biological Resources
Author: Rick York

BACKGROUND

Several state and federally protected species and their habitat occur in the project region, along proposed linear facilities routes, and on the project site. Prior to the commencement of project construction, the applicant will need to develop a Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) to be implemented during project construction and operation. The BRMIMP must identify all mitigation measures for all sensitive species and their habitat to minimize impacts during project construction and operation.

DATA REQUEST

115. Please provide a preliminary BRMIMP that includes anticipated mitigation measures to minimize impacts to all sensitive species and sensitive habitats including (but not restricted to) burrowing owl, vernal pools, vernal pool fairy shrimp, Swainson's hawk, giant garter snake, valley elderberry longhorn beetle, and oak trees. BRMIMP outline will need to include avoidance distances (to be implemented) for the giant garter snake, elderberry shrubs, and vernal pools during project construction.

116. Please include recommended mitigation measures to be implemented during directional drilling to minimize impacts to sensitive areas and associated sensitive species in the event of a frac-out during directional drilling of the Sacramento River for the proposed natural gas pipeline.

117. Please include a discussion of proposed habitat compensation to address impacts to Swainson's hawk and burrowing owl for permanent loss of foraging habitat. Please also provide a discussion of proposed habitat compensation for direct and indirect impacts to vernal pools.

BACKGROUND

Vernal pools, and several of the species that rely upon these seasonal wetlands, have become quite rare since much of California's vernal pool habitat has been developed and or converted to agriculture. A federally listed Endangered species, the vernal pool fairy shrimp, (*Branchinecta lynchi*) is known to occur on the project site. Justin Ly of the U. S. Fish and Wildlife Service has indicated that his agency assumes that any project-related ground disturbance activity within 250 feet of a vernal pool is likely to indirectly, and possibly directly, impact the vernal pool. Staff anticipates that when the project's access road is created (i.e. when Sorento Road is extended) and when the power plant is constructed, some vernal pools containing vernal pool fairy shrimp will be directly impacted by construction work and others may be indirectly impacted.

DATA REQUEST

118. Please provide a complete justification, and an explanation of all assumptions made supporting the justification, for extending Sorento Road as the project's access road. Please also provide a discussion of the suitability of using U Street and/or West 6th Street or some other nearby surface streets as the primary access road.

119. Please provide a surface water hydrology analysis, and suitable maps, that identify the current surface water conditions for the proposed project site and access road areas, and then compare the current situation with the expected conditions after construction of the proposed access road and power plant. Please also include a complete discussion of all scientific assumptions that were made for the analysis and the methods that were used to complete the analysis.

120. Please identify the location of any borrow sites that are expected to be used to provide any additional fill material that will be needed for construction of the access road and the power plant.

BACKGROUND

In June 2001, the applicant provided data responses to Biological Resource data requests #1 and #2. These data requests, and the responses, were necessary to provide current (2001) field survey data on the locations of sensitive species and their habitats in the project region. The applicant's June 2001 data responses did not contain biological resource (wildlife and floristic) field survey data for the Hedge-Proctor transmission line area. This existing transmission line segment will require reconductoring and replacement of transmission line towers as part of the project, and sensitive biological resources may occur in this area.

State and federally listed plant species, as well as plant species identified as sensitive by the California Native Plant Society (CNPS), are known to occur near to the proposed power plant site and access road (e.g. dwarf downingia, *Downingia pusilla*, CNPS List 2). Except for the proposed water supply pipeline routes, the applicant has not provided current floristic survey information for the areas that may be impacted by the proposed project.

DATA REQUEST

121. Please provide complete biological resource field survey information (wildlife, plant and habitat) for the Hedge-Proctor transmission line area that may be affected by the transmission line reconductoring and tower replacement. The area that needs to be addressed by the surveys is the 1000-foot area on either side of the outside edge of the entire Hedge-Proctor transmission line corridor. Please provide current maps (scale 1" = 500') showing the locations of any sensitive species (wildlife and plants) and sensitive habitats mapped during 2001 field surveys. Maps also need to include any nest locations and denning sites that were found during 2001 field surveys.

122. Please provide complete floristic survey results for all areas surveyed in spring 2001 that may be impacted by project-related construction activities. Complete floristic survey information needs to include information for the proposed power plant site, water supply pipelines, gas supply pipelines, access road, and Hedge-Proctor transmission line corridor. Correct response will include, but not be restricted to, complete lists of all plant species (native and non-native) identified to the taxonomic level necessary to determine whether or not each is a rare, threatened, or endangered species.

123. Please provide a detailed description of the floristic survey methodology, the dates surveys were completed, any reference sites that were visited to help with identification of specific sensitive plant species, and names/qualifications of floristic survey field personnel.

BACKGROUND

The proposed project intends to utilize ground water for power plant cooling. The ground water in the project area comes from the ground water basin connected to the American and Sacramento rivers. These rivers contain state and federally protected fish species that are likely to be adversely affected by diminished flows caused by human consumption of water. It is likely that the power plant use of the ground water will cause additional depletion of river flows.

DATA REQUEST

124. Please provide a cumulative impact analysis for the use of ground water and the potential effects on state and federally protected fish species that occur in the American and Sacramento rivers. Please identify all underlying assumptions that were used for the analysis and justification for the assumptions and methods used in the analysis.

BACKGROUND

State and federally protected species and their habitat may be impacted by the proposed project thus requiring the applicant to acquire a federal Biological Opinion and a state Incidental Take Permit prior to the start of project-related construction. In addition, construction of the proposed natural gas supply pipeline may impact a variety of waterways, including the Sacramento River, and thus requiring the applicant to acquire a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG) prior to the start of project-related construction.

DATA REQUESTS

125. Please provide an update on the acquisition of a federal Biological Opinion from the U. S. Fish and Wildlife Service (USFWS). Please discuss whether Western Area Power Administration has initiated consultation with the USFWS. If consultation has not been initiated, please identify when Western intends to initiate consultation and the reasoning for the delay.

126. Please provide an update on the acquisition of a CDFG Incidental Take Permit. If the take permit has not been requested, please identify when the application will be filed and the reasoning for the delay.

127. Please provide an update on the acquisition of a CDFG Streambed Alteration Agreement. If the agreement has not been requested, please identify when the application will be filed and the reasoning for the delay.

128. Please provide a discussion regarding whether expansion of the Western Substation will be necessary as part of the Rio Linda/Elverta Power Project. If substation expansion is necessary, please provide the following biological resources assessment information: listed and common species seen and those expected to occur in the area, wetland (vernal pool) and upland acreage impacts, a map identifying sensitive species and sensitive habitat (vernal pool) locations, and a discussion of the timing and duration of the biological resources surveys and the names and qualifications of those involved with the field studies. In addition, please provide a discussion of proposed impact avoidance measures to be implemented during construction and a habitat compensation strategy to address anticipated habitat/species impacts.

Technical Area: Cultural Resources
Author: Gary Reinoehl and Roger Mason

BACKGROUND

Based on a recent site visit by CEC staff, it appears that there are several houses that are more than 50 years old along the gas pipeline route east of the town of Yolo along County Roads 16A, 99, and 17. Additional information is needed to determine whether impacts to these properties could occur.

DATA REQUEST

129. Please provide a characterization of the structures along County Roads 16A, 99, and 17 in terms of age and type of structure. For properties with houses or other structures that appear to be more than 50 years old, please determine the distance between the structure and area of proposed impacts from pipeline construction.

130. If any of the these structures are within 50 feet of proposed impacts from pipeline construction, please provide a DPR 523 form completed by an architectural historian and indicate what protection measures will be implemented to ensure there will be no impacts.

BACKGROUND

Construction of the power plant in a rural agricultural area will change the setting and feeling of the area. Additional information on properties that surround the power plant and that have structures greater than 45 years old is needed. If any of these properties and structures are eligible for the California Register of Historical Resources (CRHR), there is the potential for a change in their setting which could result in a significant impact.

DATA REQUEST

131. Please have an architectural historian record the following properties using DPR 523 forms. Each form should provide an eligibility evaluation.

    A. 7401 W. 6th Street (Patricia Kamatti)
    B. 7424 W. 6th Street (John Risse)
    C. 508 U Street (William Antonelli)
    D. 916 Straugh Road (Ellen Starns)
    E. 920 Straugh Road (Pavel Dubinetsky)
    F. 7751 Sorento Road (Lawrence Raner)
    G. 316 Elverta Road (Charles Seidel)

BACKGROUND

Based on a recent site visit by CEC staff, it appears that there is the potential for a historical archaeology site along the gas pipeline route on the southwest corner of the intersection of Power Line Road and the dirt road that goes west toward the

Sacramento River. Staff needs additional information about this location to complete its analysis.

DATA REQUEST

132. Please have an archeologist qualified in historic archeology conduct an intensive survey of this area to determine whether a cultural resource site exists at this location.

133. If an archeological site is determined to be present, please provide completed DPR 523 forms for the site.

134. If an archeological site exists and it could be impacted by gas pipeline construction, please provide a discussion of the steps taken to determine whether subsurface deposits are present at the site.

135. If an archeological site exists and it appears that the site can be avoided by the construction, please indicate the measures that will be implemented to assure that the site will not be impacted.

136. If the site can not be avoided, please provide an evaluation of the eligibility of these deposits for the California Register of Historical Resources (CEQA Section 15064.5, (a), (3), (D)).

BACKGROUND

It is possible that temporary staging and laydown areas and workforce parking for the gas pipeline construction could be placed in areas leased or rented from property owners adjacent to the pipeline easement. Staff needs additional information to determine whether there is the potential for impacts to cultural resources outside the pipeline easement.

DATA REQUEST

137. Please determine whether any areas outside the surveyed (or yet to be surveyed) gas pipeline easement will be used as pipe or equipment staging and laydown areas or for parking or other purposes. If areas outside the pipeline easement are required, please provide the results of a cultural resources survey for these areas.

138. If cultural resources are present, please provide completed DPR 523 forms for the resources.

139. If resource(s) exist and it appears that the resource(s) can be avoided, please indicate the measures that will be implemented to assure that the cultural resource(s) will not be impacted.

140. If it is not possible to avoid the cultural resource(s), please provide an evaluation of the eligibility of the(se) site(s) for the California Register of Historical Resources (CEQA Section 15064.5, (a), (3), (A), (B), (C), and (D)).

BACKGROUND

It is possible that borrow pits or disposal areas may be necessary for the project and could be in areas leased or rented from property owners outside areas that have been surveyed for cultural resources. Staff needs additional information to determine whether there is the potential for impacts to cultural resources outside currently surveyed areas.

DATA REQUEST

141. Please determine whether any areas outside the surveyed areas will be used as borrow pits or disposal areas. If so, please provide the results of a cultural resources survey for these areas.

142. If cultural resources are present, please provide completed DPR 523 forms for the resources.

143. If resource(s) exist and it appears that the resource(s) can be avoided, please indicate the measures that will be implemented to assure that the cultural resource(s) will not be impacted.

144. If it is not possible to avoid the cultural resource(s), please provide an evaluation of the eligibility of the(se) site(s) for the California Register of Historical Resources (CEQA Section 15064.5, (a), (3), (A), (B), (C), and (D)).

The AFC states on page 5.16-8 that approximately 4 miles of the natural gas pipeline route could not be surveyed because the landowner denied access. Staff needs additional information to determine whether the property can not be surveyed at this time.

DATA REQUEST

145. Please provide a cultural resources survey of this portion of the natural gas pipeline route. For all cultural resources identified please provide copies of the completed DPR 523 forms. For any cultural resources that can not be avoided, please provide a discussion of the significance of the resources under CEQA Section 15064.5, (a), (3), (A)(B)(C) & (D) and provide staff with a copy of the assessment and the specialist's conclusions regarding significance.

146. If access to the property is still denied, please indicate the steps you are taking to gain access and an anticipated date that access will be granted and the surveys completed.

Technical Area: Land Use
Author: Mark R. Hamblin

BACKGROUND

Applicant's dated response to the California Energy Commission Data Requests, May 15, 2001 states that the land on which the project is to be built is made up of four legal parcels. Staff had requested a copy of the recorded final map. However, in response to Data Request #19e the applicant provided a copy of Sacramento County Assessor's Parcel Map 202-090. Assessor's parcels are not legal land division parcels. Assessor's parcels are generated by a County Assessor's Office as a means of placing a value on property or portion thereof for the purpose of property taxation in accordance to the California Revenue and Taxation Code. An Assessor's parcel map is not a recorded Final Map in accordance with the State Subdivision Map Act (Government Code section 66410 – 66499.58).

DATA REQUEST

147. Provide a copy of the subject property's current Final Map recorded in Sacramento County Recorder's office showing the four parcel land division.

BACKGROUND

The applicant's Data Response #20 to the California Energy Commission Data Requests, May 15, 2001 states that the "proposed power plant will be constructed on the four legal parcels." Data Response #20 also states that the "power generation facility is to be contained on a 55 acre portion of the 90 acre property." The building of the proposed power plant or any building across legally recognized parcel lines (boundaries) established by a recorded Final Map is not permitted under the California Building Codes or the Subdivision Map Act. The applicant may wish to consider merging a few of the parcels by recording a "Statement of Merger".

DATA REQUEST

148. The applicant shall demonstrate on a recorded document (e.g. Statement of Merger, Lot Line Adjustment Map, Parcel Map, etc.) that the proposed power generation facility to be constructed shall be solely contained on a single legal 55 acre parcel as required under State law.

BACKGROUND

The preparation of the land use section in the AFC referenced an obsolete version of the Rio Linda Community Plan to conduct the land use analysis for the project. The applicant used the May 1994 update to the 1975 adopted Rio Linda/Elverta Community Plan (see AFC, page 5.7-6). Subsequent to the May 1994 update the County embarked on a new community plan for the Rio Linda and Elverta areas. On June 3, 1998 the Sacramento County Board of Supervisors adopted an updated/revised Rio Linda and Elverta Community Plan (Board of Supervisors Resolution No. 98-0683).

DATA REQUEST

149. The applicant shall provide a revised land use section for the AFC that reflects a review of the proposed project in accordance with the policies in the 1998 adopted Rio Linda and Elverta Community Plan.

BACKGROUND

In Data Response #21, the applicant provided a copy of a letter from the Sacramento County Planning and Community Development Department to Lance Shaw, the CEC project manager, dated June 5, 2001. Tricia Stevens, Principal Planner, signed this letter. Ms. Stevens' letter states

"This site is designated as Industrial Intensive on the General Plan and the Community Plan. The proposed power plant is consistent with this designation. However, we [County of Sacramento] *have not yet conducted a thorough review of the project's consistency with policies contained within the Rio Linda/Elverta Community Plan". (*Italics added*)*

DATA REQUEST

150. The applicant is to provide a copy of the County of Sacramento's General Plan Consistency Determination, addressing the consistency of the proposed project with the policies adopted in the 1998 Rio Linda/Elverta Community Plan.

BACKGROUND

In Data Response #22, the applicant cited Section 301-22 of the Sacramento County Zoning Regulations in addressing the question of the power plant's exhaust stacks and transmission line towers potentially exceeding the height requirement of the County. However, after review of the zoning regulation cited, it appears that the appropriate Zone Regulations to cite are Sections 301-21 (Exception) and 301-24 (Height Limits in Aircraft Approach Zones) since these sections specifically identify height concerns using the term "structures" instead of buildings. Exhaust stacks and transmissions towers are not buildings.

DATA REQUEST

151. Applicant is to provide information demonstrating whether or not the proposed structures are in compliance with Sacramento County zoning regulations.

152. If the project's proposed structures are taller than Sacramento County interpreted height limit for structures in the heavy industrial zones, explain whether the applicant will seek a variance.

BACKGROUND

According to a zone map showing the property, the majority of the 90 acre subject property is zoned M-2(F) (Heavy Industrial-Flood Combining) by the County. The (F) Combining Zone is intended to include land covered by rivers, creeks, and streams and

land subject to flooding within the unincorporated area of the County. Section 235-11 of the Sacramento County Zoning Regulations states

"No building, structure, vehicle, sign, or area in any zone with which the (F) Combining Zone is combined shall be used, nor shall any building, structure, sign, or vehicle be erected, altered, moved, enlarged, or stored in any zone with which the (F) Combining Zone is combined, except as hereinafter specifically provided in this Chapter or elsewhere in this Code. . . "

DATA REQUEST

153. The applicant shall demonstrate that the proposed project is in compliance with Section 235-10 and Section 235-11 of the Sacramento County Zoning Regulations in addition to any other applicable flood requirements or regulations.

BACKGROUND

The applicant's Data Response #28 cites an anonymous quotation from a PG&E source as a means of demonstrating that the applicant has an agreement with PG&E to provide natural gas to fuel the project.

DATA REQUEST

154. The applicant shall provide written confirmation from PG&E that the project has a secure agreement with PG&E to provide natural gas to the project.

BACKGROUND

The natural gas supply pipeline for the project traverses the Sacramento River. Correspondence received from the California State Lands Commission dated June 7, 2001 to Robert Therkelsen, Deputy Director states "the proposed project involves the Sacramento River which is State-owned sovereign land under the jurisdiction of the Commission. Any activity waterward of the ordinary high water mark is subject to the Commission's leasing requirements."

DATA REQUEST

155. The applicant shall provide written conformation from the State Lands Commission demonstrating that it has a lease agreement with the State Lands Commission.

Technical Area: Noise
Author: Jim Buntin

BACKGROUND

The noise analysis presumes that compliance with the 45 dBA criterion of the LORS will be sufficient to avoid a significant noise effect, mitigated by the offer to provide additional sound insulation for affected residences. Energy Commission staff notes that the applicant's data indicates compliance with the 45 dBA criterion would result in an increase of as much as 15 dBA at measurement location 2. This will be excessive, in terms of producing a significant change in background noise levels, in view of the reported background noise levels in the range of 30 dBA.

In rural settings with very low levels of background noise it may be appropriate to adjust the typical 5 dBA standard used by CEC to determine whether a project has a significant impact in the area of noise.

DATA REQUEST

156. Please provide an acoustical analysis to address compliance with a noise standard of 40 dBA L_{90} at the nearest noise sensitive receivers. Include a listing of any additional required noise control measures.

BACKGROUND

The Energy Commission regulations (CCR Title 20) require that a map be provided showing the area where there is a potential increase of 5 dBA or more, during either construction or operation, over existing background levels.

DATA REQUEST

157. Please provide a map showing the sensitive receptors that are predicted to be exposed to construction noise levels which exceed the typical daytime ambient L_{90} values by 5 dBA.

158. Please provide a map showing the sensitive receptors that are predicted to be exposed to plant operation noise levels which exceed the typical nighttime ambient L_{90} values by 5 dBA.

BACKGROUND

The Energy Commission regulations (CCR Title 20) require an assessment of the audible noise from existing switchyards and overhead transmission lines that would be affected by the project, and estimates of the future audible noise levels that would result from existing and proposed switchyards and transmission lines. Noise levels shall be calculated at the property boundary for switchyards and at the edge of the rights-of-way for transmission lines. An analysis of changes in noise levels that may be produced by changes in transmission line locations or power flow must also be provided.

DATA REQUEST

159. Please provide a discussion of transmission line and switchyard noise effects as required.

Technical Area: Transmission System Engineering
Authors: Richard Minetto/Al Mccuen

BACKGROUND

Staff needs additional information regarding the interconnection of the proposed power plant to the transmission grid. While the AFC details the preferred interconnection, it does not specifically identify the location of the power plant switchyard relative to the Elverta substation. Our understanding is that the subject substation may be expanded and the power plant switchyard placed therein.

DATA REQUEST

160. Please provide a dimensional plan and profile drawing of the power plant switchyard and Elverta substation, which show the relative location of both. Please include all specific information related to any additions or modifications to the existing Elverta substation required as part of the preferred interconnection.

161. Should the outlet to the new switching station, the switching station or the loop connection to the existing Elverta Hurley lines be modified please describe such modification. Should plans to reconductor the Hedge Proctor lines be changed as a result of this modification, please describe in detail.

TECHNICAL AREA: Visual Resources
AUTHOR: Joe Donaldson and William Walters

BACKGROUND

The 80-foot-high, 80-foot-wide, 460-foot-long turbine hall shown in the visual simulations (Figures 5.10-2b, 5.10-3b, 5.10-5b, 5.10-6b, and 5.10-7b), appears massive. The Applicant responded to (first round) Data Request #54 that the Turbine Hall was sized to contain a common bridge crane for lifting and moving equipment. The Applicant also stated at the data response and issues workshop held July 17-18, 2001 that the primary purpose of the turbine hall was to attenuate noise. Given this information, it is not clear to staff whether the full height and mass of the structure is necessary to attenuate noise or contain the crane or whether the turbine hall structure could be reduced in size or broken into smaller, less massive elements to reduce its potential visual impacts.

DATA REQUEST

162. Please provide a detailed explanation of why the turbine hall is required to house the common bridge crane. Please describe how often the common bridge structure would be used for lifting and moving equipment. Please describe alternatives to using a common bridge crane that could be used for lifting and moving equipment. Please describe alternatives to permanently housing the crane on site.

163. Please describe alternative design methods that would break up the Turbine Hall's mass, reduce its height, width, or length, or in other ways reduce its potential visual impacts and achieve the same level of noise attenuation.

BACKGROUND

The response to (first round) Data Request #55 by the Applicant did not contain a description of the location, visibility, setting, appearance, visual impacts, and any aesthetic treatment for the gas metering station (i.e., the gas meter set) that would be located in a rural residential area.

DATA REQUEST

164. Please provide a detailed description of the location, visibility, setting, appearance, visual impacts, and any aesthetic treatment for the gas metering station (i.e., the gas meter set) that would be located in a rural residential area.

BACKGROUND

In the response to (first round) Data Request #58, the Applicant states that "the construction laydown areas will be located on the east and southern portions of the project site." However, Figure 3.3-1, Site Plan, shows a switchyard construction laydown and parking area located on the west side of the site very near and visible from East Levee Road. The Applicant did not provide a detailed description of the construction-related visual impacts associated with this construction laydown area either

in the AFC or in its response to Data Request #56. Furthermore, for its analysis, Staff needs to know if there are any alternative locations or configurations for laydown areas on the site that would reduce potential visual impacts.

DATA REQUEST

165. Please provide a detailed description of the location, visibility, setting, appearance, lighting, visual impacts, and any screening or other aesthetic treatment for the switchyard construction laydown and parking areas. In particular, please describe in detail the appearance of this construction laydown area in views from East Levee Road and describe any methods intended to effectively screen or otherwise reduce the potential visual impacts of this laydown area.

166. Please describe any alternative locations, configurations, or sizes of all construction laydown areas on the site that would reduce the potential visual impacts of these laydown areas.

BACKGROUND

In the response to (first round) Data Request #58, the Applicant states that "construction fencing with fabric screening will be installed" to help reduce potential visual impacts of the construction laydown areas. However, the Applicant does not describe the materials, patterns, or colors of fabric screening or other aspects of the construction fencing.

DATA REQUEST

167. Please provide a detailed description of the materials, patterns, and colors of fabric screening and any other aspects of the construction fencing that will be used as screening for all construction laydown areas.

BACKGROUND

In the response to (first round) Data Request #46, the Applicant has added language to the data request itself that states that "views from more than 2 miles should be considered background." Staff does not agree with this statement and this and other wording in the data request is not the original language written by Staff.

DATA REQUEST

168. In order to clarify the record and the Applicant's response, please use Staff's original language in (first round) Data Request #46 and clarify the Applicant's response.

BACKGROUND

On the map provided in response to (first round) Data Requests #46 and #47 titled "Views From Residences" the distances shown as concentric circles appear to be measured from the center of the project site rather than from the edges of the proposed major project features on the site. Because of this, a number of residences with

foreground views of the project appears to fall just outside of the 1/2-mile limit of the foreground distance zone. In addition, the map does not indicate a scale, figure number, or orientation.

DATA REQUEST

169. On the map provided in response to (first round) Data Requests #46 and #47 titled "Views From Residences," please redraw the lines that indicate distances from the project so that the distances are measured from the edges of the proposed major project features on the site. In addition, please identify the total number of residences with views of the project site that are located within a 1/2-mile distance of the proposed major project features nearest to those residences.

170. Please indicate the scale, figure number, and orientation on the map.

BACKGROUND

On the new elevations that were provided in response to (first round) Data Request #49, the HRSG units appear to be shown at a height less than the 97-foot-height indicated in Table 5.10-2 (revised) and the 100-foot-high "poles supporting power line connecting turbines to switching station" are not shown.

DATA REQUEST

171. On the new elevations provided in response to (first round) Data Request #49, please show the HRSG units at the correct height of 97 feet as indicated in Table 5.10-2 (revised) and please show the 100-foot-high "poles supporting power line connecting turbines to switching station".

BACKGROUND

(First round) Data Request #51 requested that "one or more visual simulations from the area of KOP 4 that show the entire power plant, including the switchyard" be provided. The visual simulation provided in the supplemental data responses does not show the entire power plant and switchyard facilities, as they would appear from the area of KOP 4.

DATA REQUEST

172. Please provide additional visual simulations that show the remainder of the northerly portion of the power plant and the entire switchyard facilities on the southerly portion of the site, as they would appear from KOP 4. In the alternative, provide a visual simulation in panoramic form that shows the entire power plant and switchyard facilities as they would appear from KOP 4.

BACKGROUND

A variety of trees and shrubs that the Applicant will rely on to screen views of the power plant and reduce potential visual impacts are identified on the landscape plan submitted in response to (first round) Data Request #64. The heights and growth rates indicated

for some of these plants appear to be aggressive given probable soil and subsurface conditions at the site. Also, the Applicant has not identified the source or approximate quantity of water that would be needed to properly irrigate the plants.

DATA REQUEST

173. Please identify the sources and provide a copy of the information used to identify the heights and growth rates indicated for the selected trees and shrubs shown on the landscape plan. Please describe the probable soil and subsurface conditions at the project site, identify the source of this information, and describe how these conditions would support the selected plants and growth rates identified or describe how these conditions would be altered to support the plants and growth rates. Please identify the source(s) and describe the approximate quantity of water that would be needed to properly irrigate the plants.

BACKGROUND

In its initial responses to data requests (docketed June 16, 2001) and supplemental data responses (docketed July 13, 2001), the Applicant did not respond fully to all data requests. In its supplemental data responses, the Applicant stated it would provide the remaining requested photographs, visual simulations, electronic files of photographs and visual simulations, and visual analyses as requested in (first round) Data Requests 52, 53, 68, 69, 70, 71, 72, and 73 by July 27, 2001. This information has not been received yet. Staff cannot complete its analysis of visual impacts until this requested information is provided.

DATA REQUEST

174. Please provide the remaining information requested in (first round) Data Requests 52, 53, 68, 69, 70, 71, 72, and 73.

BACKGROUND

The Applicant has revised the project design to include a plume-abated cooling tower. In order for staff to properly evaluate the potential for plume occurrence additional engineering design and operating information for this new cooling tower is necessary.

DATA REQUEST

175. Please provide vendor data for the new cooling tower design which includes the relative maximum design heat rejection rates for the “liquid/air contact wet section” and the “non-contact plume abatement heat exchange” section of the tower.

176. Please provide a vendor performance guarantee for visible plume abatement based on the ambient conditions, combinations of temperature and relative humidity, at which visible plumes may start to form when the plume abatement section of the tower is operating at maximum capacity. This vendor guarantee can be provided in tabular form or as a line drawn on a psychrometric chart with the area left of the line indicating the ambient conditions where visible plumes may

form when operating the plume abatement section of the tower at maximum capacity.

177. In order for staff to model the potential visible plume frequency please provide exhaust parameter data, with the plume abatement system on maximum capacity during maximum steam turbine load, to complete the following table.

Ambient Condition	Exhaust Velocity (m/s)	Exhaust Flow Rate (lbs/hr/cell)	Exhaust Moisture Content (provide units)	Exhaust Temperature (°F)
20°F, 90% RH				
20°F, 50% RH				
20°F, 20% RH				
40°F, 90% RH				
40°F, 50% RH				
40°F, 20% RH				
60°F, 90% RH				
60°F, 50% RH				
60°F, 20% RH				
80°F, 90% RH				
80°F, 50% RH				
80°F, 20% RH				
100°F, 90% RH				
100°F, 50% RH				
100°F, 20% RH				

A. Please specify the units of moisture content given in the table. Percent by weight, percent by volume, or relative humidity of the exhaust at the given exhaust temperature are acceptable units.

B. Please note that staff intends to model the plume abated cooling tower using hourly estimated exhaust conditions based on the hourly ambient conditions of the meteorological file used to perform the modeling. The cooling tower exhaust conditions will be interpolated based on the exhaust values given. Therefore, additional combinations of temperature and relative humidity, if

provided by the applicant, will be used to more accurately represent the cooling tower exhaust conditions.

178. Please provide the estimated capital and operating costs of the original non-abated wet cooling tower design and the new plume-abated wet cooling tower design, and indicate the estimated incremental power consumption increase (i.e. efficiency loss) required to operate the new plume-abated cooling tower. This data should be from a cooling tower manufacturer(s) and should include detailed line item costs where available.

179. Please indicate if the Applicant is willing to stipulate to a Condition of Certification that specifies the level of plume mitigation as guaranteed by the manufacturer, and please provide an example of what the Applicant would consider an acceptable cooling tower plume mitigation Condition of Certification.

BACKGROUND

Staff has concerns that the moisture content units provided for the HRSG exhaust in the Applicant's Data Request Response #44 are not correct. Based on review of several similar projects the moisture content units provided in Data Response #44 appear to be volume percent, rather than the stated weight percent. Staff seeks confirmation of the moisture content units provided in Data Request Response #44.

DATA REQUEST

180. Please identify if the moisture content units provided in Data Response #44 are weight percent as noted, or if the values provided are actually volume percent.

Technical Area: Water and Soil Resources
Author: Linda Bond, Rick Sidor, Kristine Uhlman, Lorraine White

BACKGROUND

On March 13, 2001, the Rio Linda/Elverta Community Water District (District) sent a letter to Tim O' Laughlin stating that District would provide water for the Rio Linda/Elverta Power Project (RLEPP) provided four conditions are met. These include: 1) regulatory approval by the Energy Commission, if necessary; 2) regulatory approval by the Board of Supervisors, if necessary; 3) execution of a developer agreement for the capital projects necessary to serve the RLEPP, including completion of any pre-construction requirements; and 4) payment for appropriate CEQA documentation.

DATA REQUEST

181. Please provide a letter, signed by the District that contains the following:

A. An identification of any regulatory approval by the Board of Supervisors that the District believes is necessary in order for the District to provide water for the RLEPP.

B. An identification of the capital improvements and their locations that the District believes are necessary for the District to provide water for the RLEPP, as well as an identification of any pre-construction requirements imposed by the District.

BACKGROUND

In reviewing data from the FEMA website, it is apparent that much of the site lies within the 100 year flood plain. While the applicant has indicated that the power plant will be located outside the limits of the flood plain, the most recent site plan indicates that there will be features (for example the sedimentation/detention basins, roadways and landscaped berm) that will encroach into the mapped floodplain. If these proposed encroachments impact adjacent or nearby properties, then the design may require significant modifications that would impact other resources or proposed mitigation measures (transportation, noise, visual, etc). Thus it is necessary to further examine these issues at this time.

In addition, because the area has a history of flooding, it is important that the applicant address potential flooding/drainage impacts to the RLEPP facilities and to adjacent and nearby properties. Flooding and drainage impacts must consider regional flooding issues (FEMA Floodplain), local flooding issues (local drainage courses impacting the site) and on-site drainage issues (flows generated by the project).

DATA REQUEST

182. Regional Flooding: Please address the regional flooding issues and potential impacts to the site and offsite impacts caused by the proposed construction of the project.

A. Please provide a site map with the current FEMA floodplain clearly and accurately delineated. The site map should include topographic contours and the currently mapped Base Flood Elevation (BFE).

B. Please provide a preliminary floodplain analysis with appropriate hydraulic and hydrologic calculations addressing any impacts caused by any encroachments into the floodplain. The analysis should address potential expansion of the floodplain limits and any impacts to the BFE caused by the encroachments.

C. Based upon the flood plain analysis, describe the anticipated process for revising or amending the Flood Insurance Rate Map (FIRM).

D. If the Army Corps of Engineers (ACOE) has recently completed studies, as indicated by the applicant, indicating a reduction in flood potential due to levee or other regional improvements, please provide a copy of the ACOE reports indicating such. Please address the impacts of the ACOE report and findings upon the project, including removal of the project from the mapped floodplain, and whether or not the ACOE will be processing a conditional letter of map revision (CLOMR)/ LOMR or revising the FIRM maps.

E. Please address any potential flooding impacts to any proposed well sites to be constructed in the floodplain.

F. Please address increased offsite flooding impacts that will be caused by the construction of well sites, well site enclosures, or other proposed offsite facilities proposed to be constructed in the floodplain, if any.

G. The applicant suggested that the main access road would be raised to provide all-weather access to the site. Please address any increased offsite flooding impacts that will be caused by the proposed construction of the access road and any other roads impacted by the 100-year flood plain.

183. Localized flooding: Please address the local flooding issues and potential impacts to the site and impacts caused by the proposed construction of the project.

A. Please provide a preliminary drainage analysis that addresses the flooding potential caused by the “local” drainage courses that flow through or adjacent to the site. The study should include appropriate hydrologic calculations and hydraulic analyses for the drainage courses impacting the site. The analysis should describe the flow capacity of the existing drainage courses and any proposed measures to capture, contain and convey the existing and ultimate,

developed tributary 100 year flows through and around the site in a manner that will not cause adverse impacts to adjacent or nearby properties.

B. Please address any increased offsite flooding impacts caused by the proposed construction of the access road, well sites, and any offsite improvements impacted by local drainage courses.

C. Please provide a list of offsite properties that will be affected by the concentration or redirection of flows and for which an offsite easement or drainage acceptance letter will be necessary. Please describe all measures to be implemented to avoid or lessen any adverse impacts to these properties.

184. Onsite Drainage: Please address the potential increase in flows from the site improvements and the impact to offsite properties.

A. The draft Erosion Control and Storm Water Management Plan (ECSWMP) indicates 10-year, 24-hour rainfall design parameters for onsite facilities. Please confirm all design parameters with the local flood control district (Sacramento County Water Resources) requirements and provide documentation of this confirmation.

B. Please provide a preliminary onsite drainage study. The study should provide a preliminary hydrologic analysis describing the existing 100 year flows and post-development 100 year flows generated by the project site. The analysis should be prepared in a format consistent with local flood control district (Sacramento County Water Resources) requirements. The study should also include appropriate preliminary analyses showing that the project will not cause an increase or concentration of flow at discharge points onto adjacent properties.

BACKGROUND

Construction and operation of the RLEPP may induce water and wind erosion at the power plant site and along the associated linear facilities. Storm water runoff may also contribute to erosion and sedimentation as well as transport pollutants off-site. In response to staff's (first round) Data Request #74, the applicant provided a draft ECSWMP. Staff reviewed the applicant-prepared draft ECSWMP. Staff requires additional information.

DATA REQUESTS

185. The draft ECSWMP indicates that the runoff ponds will be designed to retain the first ½ inch of runoff and that they will be used as sediment basins during construction. Please provide calculations to confirm that the basins are adequately sized for temporary sediment basins pursuant the section A.8 of the NPDES General Construction Activity Permit.

186. The draft ECSWMP indicates that the construction laydown area south of the power plant will drain to the southeast corner of the site where the flows are

discharged offsite without any erosion controls, sediment controls or other treatment BMPs. This disturbed soil area will have the potential to produce sediment and other pollutants associated with the vehicles, equipment and materials that will be stored therein. Please address how the flows from this area will be discharged offsite without any increase in sediment or other pollutant loads and that velocities will be at acceptable levels.

187. Please locate any proposed oil/water separators on the draft EC/SWMP drawings. If one is not proposed, please explain how such pollutants will be kept from entering the stormwater system.

188. The Draft ECSWMP does not adequately address the requirements of the 1999 NPDES permit and amendment 2001-046. Thus, the second paragraph in Section 1.0 of the Draft ECSWMP should be revised to state that “Prior to construction, the draft ECSWMP will be used to develop a Storm Water Pollution Prevention Plan (SWPPP) pursuant to the requirements of the NPDES General Permit”.

189. The draft ECSWMP does not address offsite run-on as required in the NPDES General Permit. Please show all calculations for anticipated storm water run-on, and describe all BMPs that will be implemented to divert or convey off-site drainage.

190. Please address any known or anticipated impacts that may affect the design of the site due to Nationwide Permits or Streambed Alteration Agreements. Please also address any revegetation efforts that are known or anticipated to be necessary as a part of any habitat restoration.

191. The deferment of revegetation and planting details until final design is unacceptable. Please provide preliminary planting and revegetation plan as requested in (first round) Data Request #76.

192. The maintenance and monitoring program described in the Draft ECSWMP does not reflect the inspection requirements outlined in the NPDES General Construction Activity Permit. Please address this matter.

193. The maintenance and monitoring program described in the Draft ECSWMP does not reflect the recent amendments (2001-046) to the NPDES General Construction Activity Permit regarding sampling of pollutants. Please address this matter.

194. The Draft ECSWMP does not address measures to rectify unsuccessful revegetation efforts. Please address this matter and specify criteria to be used to determine success. Please provide the criteria for judging revegetation success.

BACKGROUND

To evaluate the potential impacts of project groundwater consumption, including drawdown near the supply wells, additional information on water usage rates is needed.

DATA REQUEST

195. Please provide the total monthly average water-usage rates anticipated for the proposed project.

196. Please provide the total monthly maximum water-usage rates anticipated for the proposed project.

197. Please provide the frequency distribution for annual water-usage rates anticipated for the proposed project.

198. Please provide the maximum pumping capacity anticipated for each project well.

BACKGROUND

A technical evaluation of the potential for upwelling of brackish groundwater from the lower portions of the Mehrten Formation that could be induced by project pumping was not provided in response to (first round) Data Request #86.

DATA REQUEST

199. Please provide a description of the technical basis that supports conclusion expressed by the District personnel cited in Data Response #86.

200. Please provide the names and contact numbers for the District personnel cited in Data Response #86.

BACKGROUND

The response to (first round) Data Request #86 relied, in part to the Draft Rio Linda/Elverta Community Water District Groundwater Impact Investigation (Montgomery Watson-Harza) prepared for the District.

DATA REQUEST

201. Please provide 12 copies minimum of the District's Draft Groundwater Impact Investigation (Montgomery Watson-Harza), including all attachments and supporting documents.

BACKGROUND

To evaluate the potential for upwelling of lower quality groundwater induced by the proposed project wells, groundwater quality records should be evaluated.

DATA REQUEST

202. Please provide any historical records of water quality samples collected from existing or abandoned district wells.

BACKGROUND

The Rio Linda/Elverta Community Water District Water Master Plan (November 2000) states that there are approximately 1000 private wells within the District area. To evaluate the potential impacts to private wells, additional information on the location of private wells, privately irrigated land, and water district customers is needed.

DATA REQUEST

203. Please provide any available information regarding the location of private domestic or irrigation wells and the location of privately irrigated parcels.

204. Please provide any other information on the existing private wells within the District, including well logs, construction details, specific capacity tests, and other well or aquifer tests.

205. Please provide maps, reports, information, policies, or regulations on land within the District that would either provide acceptable or unacceptable sites for new wells.

206. Please provide addresses, parcels, and map locations for current customers served by the District.

BACKGROUND

To evaluate range of local aquifer conditions and the potential impact of project pumping on neighboring wells, additional information on existing District wells is needed.

DATA REQUEST

207. Please provide a copy of all well logs, construction details, specific capacity tests, and other well or aquifer tests for existing District wells.

208. Please provide any historical records of measured groundwater levels for District wells.

BACKGROUND

To evaluate the potential impact of project pumping on neighboring wells, the specific locations of all new wells required to provide the project's water supply is needed.

DATA REQUEST

209. Please provide the specific locations of all new wells required to provide the project's water supply and provide verification of these locations by District.

BACKGROUND

Clarification is needed on the change in the quantities of the project's groundwater supply that will come from aquifer storage and from induced groundwater recharge from the Sacramento River (first round) Data Request #91.

DATA REQUEST

210. The response to Data Request #91 refers to "the model results." Presumably, this model refers to the Montgomery Watson-Harza's North American River and Sacramento County Combined Integrated Groundwater and Surface Water Model (MWH Model). Please identify the model that was used to produce the results discussed in this data response Please provide a copy of any reports, computer codes, input files and output files associated with this model and used to produce this analysis, if not previously provided. Please specify the version and simulation of the model if multiple versions and simulations exist.

211. Please provide an analysis of the annual change in the quantities of the project's groundwater supply that will come from aquifer storage and from induced groundwater recharge from the Sacramento River as a result of project groundwater use, including the changes that will occur in response to groundwater level recovery after project closure.

212. The response to (first round) Data Request #91 states "a 50-year period is needed to reach a new balance." However, discussing the MWH Model, the response to (first round) Data Request #86 states that 10 to 20 years are required for the groundwater system to reach equilibrium. Please explain and clarify this apparent contradiction.

BACKGROUND

In the AFC, the applicant claims that "ground water quality will not be affected by the Site development or operation" (AFC, p.5.4-9)**.** Local extraction of ground water for future water supply purposes is expected to change regional gradients and may impact the configuration of the drawdown area within the Sacramento North Area Aquifer Sub-Basin*.* The *Sacramento Water Forum Action Plan* (1999) and the *Rio Linda/Elverta Community Water District Water Master Plan* (2000) acknowledge that a significant cumulative impact to ground water resources will occur in the region assuming a continuing trend of increased development and ground water extraction.

Currently, the ground water pump-and-treat remediation system at McClellan (continuously pumping approximately 1,000 gpm since the mid-1980's) in combination with the sub-basin ground water conditions suggest the direction and rate of movement of the McClellan plume is contained. The plume is influenced by regional conditions and local ground water extraction by the proposed project coupled with future development may change ground water direction and flow.

DATA REQUEST

213. Please discuss the option of pursuing a surface water agreement or a conjunctive use agreement (similar to that proposed in the final decision for the Sacramento Ethanol and Power Cogeneration Project (SEPCO) rather than an agreement to provide water supply from local ground water. Include in the discussion reasons why these options may or may not be feasible.

BACKGROUND

The Sacramento County Integrated Ground Water-Surface Water Model (IGSM) was constructed to evaluate hydrologic conditions across the 879 square miles of the basin and simulated ground water elevations within individual grid units of approximately 400 acres. Although the model was used for an impact analysis for the SEPCO project, the scale of the model in addition to limitations in simulating transport of contaminants (acknowledged by the applicant in the Data Response to (first round) Data Request #87) is such that the IGSM model is not an appropriate tool to assess ground water quality impact due to RLEPP site development or operation.

DATA REQUEST

214. Please conduct and submit the results of an analysis to determine that ground water pumping to serve the RLEPP would not affect the McClellan plume or have an adverse affect on ground water quality.

215. In addition to the McClellan plume, please identify any National Priorities List (NPL), Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), and California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) CAL-Sites Database facilities within 4 miles of the Site. Please locate these potential contaminant source areas on a map. Please provide Staff with an analysis conducted by the applicant to determine that ground water pumping to serve the RLEPP would not affect pre-existing documented contaminant sources.

216. Please provide appropriate documentation of the technical basis of the analyses provided above, including citation of any computer model programs applied, assumptions, and copies of pertinent references. In addition, the analysis should include an assessment of what circumstances could result in McClellan plume mobilization and/or the introduction of other contaminant sources to the Rio Linda / Elverta area. For example, how would a reduction in pumping at McClellan and increased pumping near the Site affect plume migration? How much ground water withdrawal from the Site would be necessary to reverse regional gradients? Assuming the RLEPP is closed after 30 years and ground water extraction to provide water supply is terminated, how long would it take before regional gradients rebound to current conditions?

217. Please provide a draft ground water monitoring plan that will be implemented with the construction of the facility and continue throughout the life of the project.

Please identify monitoring well locations, anticipated depths and construction details, monitoring parameters (hydraulic and chemical) and frequency of monitoring. Include within the monitoring plan those indicators (such as the detected presence of a contaminant of concern) that would initiate mitigation or other action on the part of the applicant.

BACKGROUND

The proposed project will use a septic system and leach field for sanitary waste disposal. Proper location and installation of such facilities is necessary to protect groundwater quality.

DATA REQUEST

218. Please provide a map of the RLEPP that depicts ground water flow direction and includes the footprint of the facility and the location of the septic system and leach field. Please include on the map the location of neighboring water supply wells, proposed facility water supply wells, and draft monitoring well locations. Please provide a similar map(s) that depict seasonal variation in flow direction and also any anticipated change in local ground water flow direction due to regional sub-basin gradient changes due to extraction of ground water to supply the facility and also as a result of future development. Provide calculations of the percentage of time over the year that the site soils and septic leach field may be saturated due to flooding, and address the likelihood of leach field failure due to saturation.

219. Please locate the existing irrigation well on the property, and provide information as to water chemistry, well depth and yield. Please clarify if this well will be sealed and abandoned; if this well may be an appropriate temporary source for irrigation and/or fire protection water; and if this well is a candidate monitoring well.

BACKGROUND

The applicant has proposed to use ground water to supply water resources to the RLEPP project. The District has supported the application with a conditional will-serve letter, but did not participate in the selection of the three well sites identified in the Applicants Response to Data Adequacy Comments #52 and 53 (personal communication, Mike Phelan, August 1, 2001). It is understood that well design can not be finalized until after exploratory borings and test well assessment. In addition, water quality is unique to each well location.

Within the area served by the District, elevated concentrations of magnesium, iron, and arsenic have been observed in individual wells, Total Dissolved Solids (TDS) concentrations, vary, and methane has also been encountered in well water. The initial design of the zero-liquid discharge (ZLD) system is based on the chemical analysis provided by the District and is representative of its historical water quality. The applicant states in AFC Section 3.4.6.3 (page 3-29) that all water used at the plant is treated. In applicant's response to (first round) Data Request #84, TDS concentrations between 190-260 ppm was considered by the applicant as a "worst-case scenario, [that] will have

a minor impact to the final ZLD design and operation, and is not considered a significant change."

DATA REQUEST

220. If exploratory drilling and test wells indicate that water of sufficient quantity and quality is not available at the three well sites identified by the applicant, what options are available to the applicant to address alternative water supply sources? In the AFC the applicant only provided a brief discussion of water supply alternatives (AFC Section 3.10.5, p.3-76 & 77).

221. Please address what impact variations in water chemistry may have on facility final design, water treatment, plant operation, wastewater zero-discharge design and waste disposal.

222. Please specifically identify impact to treatment efficiency, increase/decrease in cooling tower cycle of concentration flows, cooling tower emissions, consumption requirements, operational impact, waste streams, and changes in water supply quantity needs due to variation in the concentration of:

- Magnesium
- Iron
- Arsenic
- Dissolved methane

223. Please include with your response the calculations and vender performance data that quantifies the limits on the inflow treatment system and ZLD treatment system. Also include in this discussion an explanation of any constraints or combination of constraints that may limit the number of cycles of concentration in the cooling towers.

BACKGROUND

The May 15th, 2001 (first round) Data Request #81 requested the calculations used to derive the water usage rates shown in AFC Tables 3.4-9 and 3.4-10. The response provided by the applicant was summary in nature and reported only on annual averages and weighted daily requirements for an estimated consumptive use of 2,823 AF/YR, lacking specific data and calculations regarding water consumption.

DATA REQUESTS

224. Please expand on this evaluation by reporting on calculated peak demand and provide estimated peak water demand and water balances for plant base load operation at summer and winter air temperatures and humidity typical for the area. For example, the water balance assumed an average air temperature of 60 degrees F when temperatures over 100 degrees have been reported in the valley.

225. Please summarize your calculations by graphically depicting maximum and minimum calculated water demand on a monthly basis by incorporating average

monthly maximum and minimum air temperatures and humidity reported over the period of record.

BACKGROUND

Independent discussions with the Eco-SafeTM vender (T. Scheurman, multiple contacts, July 2001) and review of the Patent registered with the United States Patent office (#6,059,974, May 9, 2000, Scheurman) appears to confuse the information provided in the AFC. Staff understands that the Eco-Safe process itself is capable of treating seawater and brines to drinking water quality, and that two waste sludge streams are generated. The process diagram provided by the Applicant in response to Data Adequacy Comment #63 depicted only the anion component of the process. A cation component is also part of the treatment system. The Eco-Safe process generates two waste streams: a spent brine sludge and a calcium carbonate sludge. Both sludges require further treatment (clarification, dewatering, and filter press) for disposal and to be considered a zero liquid discharge waste. The calcium carbonate sludge is a marketable material that can be recycled for treatment of acid rock drainage (for example). When asked, the Eco-Safe vender indicated that water chemistry, such as that reported to exist within the McClellan plume, would not impact the performance of the Eco-Safe treatment system. As a result of discussions with the Eco-Safe vender, Staff believes that the ZLD cooling tower water treatment system is not restricted from application to a contaminated water source, and is also not restricted to low TDS water.

DATA REQUESTS

226. Knowing that the Eco-Safe process generates a recyclable calcium carbonate sludge, please provide an evaluation of the local market for sale of this recyclable material versus the costs of dewatering and filter pressing the sludge for ultimate dry disposal in a landfill?

227. Please conduct a feasibility analysis of the use of a contaminated water source rather than uncontaminated ground water for cooling purposes. It is noted a contaminated source may be the McClellan plume or another source such as municipal wastewater or industrial process water.

228. Please select what you believe to be representative of an alternative water source(s) although it is recommended that this analysis include assessment of the McClellan plume in addition to another realistic alternative source.

229. Please provide a table of anticipated water chemistry similar to AFC Table 3.4-11 (page 3-28) and please address what impact variation in water chemistry may have on facility final design, operation, and waste disposal.

230. Please specifically identify impact to treatment efficiency, increase/decrease in cooling tower cycle of concentration flows, cooling tower emissions, consumption requirements, operational impact waste streams, and changes in water supply quantity needs due to variation in the concentration of contaminant constituents. A

feasibility analysis includes a discussion of technical practicability and both capital and operation costs.

BACKGROUND

Staff understands that revisions to the cooling tower height, location, and number have been made since submittal of the AFC. Revisions to facility design may result in changes to the water demand and may suggest alternatives to the proposed cooling technology so as to reduce these demands. Also, independent communication with the District by Staff revealed that current water rates are approximately $0.60 / Hundred Cubic Feet. In addition, water supply costs will include costs associated with exploratory drilling, testing, and bringing new water supply wells on-line to the RLEPP facility, and may include additional operational costs. For that reason, please re-address the May 15, 2001 (first round) Data Requests #78 and #79.

DATA REQUESTS

231. Please provide an analysis of the cost and water use associated with the use of dry and wet/dry cooling technology for the proposed RLEPP (first round) Data Request #78.

232. Please include a discussion of the relative environmental benefits and detriments of wet, wet/dry, and dry cooling technologies (first round) Data Request #79.

BACKGROUND

Site soils and aquifer materials include fine-grained silts and clays that are susceptible to compaction following dewatering and are also capable of preferentially transmitting vibrations at a distance from the source. Land subsidence due to aquifer dewatering is a recognized concern in areas relying on ground water resources. Although it is recognized that 30 AF/YR is less than one percent of the aquifer sub-basin yield of approximately 130,000 AF/YR, land subsidence does occur in areas of intense water table decline.

Also, the liquefaction potential for soils within the Sacramento Basin during earthquake shaking is low, however, high frequency vibrations can be transmitted and detected due to the platy nature of the soils. Vibrations generated by drilling as well as other construction activities may be detectable beyond the Site boundaries. It is assumed that a properly constructed and maintained turbine is not expected to vibrate.

DATA REQUESTS

233. Because this project is relying entirely on ground water, please discuss the observed relationship between ground water drawdown and land subsidence in the North Area Aquifer sub-basin. Please quantify the portion of anticipated subsidence due to future ground water withdrawals that could be attributable to the extraction of groundwater by this project.

234. Please discuss actions to be taken in the construction and operation of the proposed project considering site soils that will minimize the transmission of vibrations.